

Remarks/Arguments

Claims 1-19 are pending in the application. Claims 7, 14 and 15 are withdrawn. Claims 1-6, 8-13, and 16-19 are rejected. Claim 20 is added. No new matter has been entered.

Applicant wishes to draw the Examiner's attention to certain elements of the embodiments of Applicant's application. A basic setting is determined during the calibration of a specific driver device and is dependent on the performance of its internal circuitry. The basic setting is stored in a memory on the driver device. The basic setting is used to enable the driver device to provide a drive signal that is within a predetermined specification. That is, the basic setting is used by the driver device to adjust its performance so as to compensate and account for its manufacturing spreads. As such, the basic setting is an internal parameter, independent of ambient conditions encountered when used in products in the field.

A correction factor is stored in a memory on the driver device such that the driver device is operable, under the influence of the basic setting and the correction factor, in such a way that produces a drive signal that is acceptable to a specific display device. In this way, the driver device provides a proper drive signal for a particular display device. As such, the correction factor is, again, an internal parameter, responsive to the specification of the display device, but independent of ambient conditions.

The references cited in the Office action appear to deal with settings derived from external sources while in use, including ambient conditions, such as temperature and light. They do not address the internal parameters of the driver and/or display devices. Therefore, the Applicant's application and the cited references address different subject matter.

The Examiner is invited to telephone the below-signed attorney at 503-844-9009 to discuss any questions which may remain with respect to the present application, particularly the above.

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Serial No. 09/834,826

Claim Rejections Under 35 USC § 103

Claims 1-3, 6, 8-13, and 16-19 are rejected under 35 USC 103(a) as being unpatentable over Yamamoto (US Pat. 5,515,074) in view of Kazuo (JP 09-018806).

Claim 1

The Office action asserts that Yamamoto shows all of the limitations of claim 1 except for "the driver circuit operative to adjust the adjustable characteristic by modifying the value of the basic setting by the value of correction factor", where Kazuo "teaches to modify the value of basic setting by the value of the correction factor (See Drawing 1, items 4, 8, 10, page 3, paragraphs 0015-0021)." The Office action concludes that it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the teaching of Kazuo into the Yamamoto system in order not to be affected by environmental light (See Abstract in the Kazuo reference).

Applicant respectfully traverses this assertion for a number of reasons.

The Office action asserts that Yamamoto teaches a driver circuit comprising means for storing a basic setting of an adjustable characteristic (See Fig. 1, Items 17-18, Col. 3, Lines 24-30) of the driver circuit (See Fig. 1, items 11, 14, in description See Col. 3, Lines 1-7). Applicant respectfully submits that Yamamoto does not disclose a means for storing a basic setting as provided in Applicant's claim 1 and supported by Applicant's specification. Item 18 is a controller for fine adjustment of the density based on temperature data and does not provide a basic setting and does not have a storage function (See Col. 3, Lines 27-30). Item 17 is a manual control volume for fine adjustment of density (See Col. 3, Lines 24-25). The manual control volume is for manually, finely adjusting the density to a value between those values provided by the updated density data (from the data memory 13) or to a user's preference (See Col. 4, Lines

6-15). As such, neither the controller 18 nor the manual control volume 17 provide a basic setting nor store a basic setting.

The Office action asserts that Yamamoto teaches a driver circuit that includes a means for storing a correction factor (proper density data)(See Fig. 1, item 13, Col. 2, Lines 65-67) to correct the basic setting of the adjustable characteristic of the driver circuit (See Fig. 1, items 11-14, 18, in description See Col. 3, Lines 1-42). Applicant respectfully submits that Yamamoto does not disclose a means for storing a correction factor to correct a basic setting as provided in Applicant's claim 1 and supported by Applicant's specification. For the reasons provided above, Applicant does not find in Yamamoto a stored basic setting that is corrected by a stored correction factor. Applicant submits that the data memory 13 stores a look-up table of fixed proper density values based on specific temperatures (See Col 2, Lines 65-67). These proper density values are not used to correct the manual control volume 17 or the controller 18 (that store the "basic" setting as asserted in the Office action) but, on the contrary, the manual control volume and controller are used to correct the proper density values (See Col. 4, Lines 6-11, and Fig. 2).

Applicant concurs with the Office action in that Yamamoto does not show the driver circuit operative to adjust the adjustable characteristic by modifying the value of the basic setting by the value of the correction factor.

The Office action asserts that Kazuo "teaches to modify the value of a basic setting by the value of the correction factor (See Drawing 1, items 4, 8, 10, page 3, paragraphs 0015-0021). Applicant respectfully submits that Kazuo teaches how a gradation amendment table can be caused to change with respect to ambient light, by splitting the gradation amendment table into a basic table component and an ambient light table component. The ambient light table component is populated with values that are based on the level of ambient light. The ambient

light table component modifies the basic table component for a specific ambient light level, and therefore provides a specific gradation amendment table for a specific ambient light level.

For the reasons provided above, among others, Applicant respectfully submits that it is not obvious as to how to combine the Yamamoto and Kazuo references in order to obtain the embodiment of Applicant's claim 1.

The Office action asserts that the manual control volume 17 and/or the controller 18 store the basic setting. Applicant does not see how the teachings of Kazuo can be applied to the controller or manual control volume of Yamamoto. Yamamoto teaches that the controller and manual control volume are for fine adjustment of the density provided by items 16 and 13, which themselves provide the temperature correction per the proper density data. It would not be obvious to provide correction to the controller or manual control volume, since they themselves provide the fine adjustment.

On this factor, and arguments made in support of claim 1, among others, Applicant submits that Yamamoto and Kazuo, singularly or in combination, fail to teach the elements of claim 1.

Claims 2, 3, 4, 5, and 9 depend from claim 1 and are patentable over Yamamoto in view of Kazuo for the reasons provided above, plus the elements in the claims. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious.

MPEP § 2143.03. Applicant respectfully requests reconsideration and allowance of claims 1 through 5 and 9.

Claim 2

The Office action asserts the Yamamoto teaches a means for storing and accessing a correction factor to correct the basic setting. Applicant traverses this assertion for the reasons provided above, among others. Applicant respectfully submits that Yamamoto does not disclose a means for storing a correction factor to correct a basic setting as provided in Applicant's claim 1 and supported by Applicant's specification. The Office action asserts that the correction factor is stored in the data memory 13. The data memory 13 stores a look-up table of fixed proper density values based on specific temperatures (See Col 2, Lines 65-67). Yamamoto fails to address how the data memory 13 is accessible for changing the data stored therein as provided in Applicant's claim 2.

Applicant respectfully requests reconsideration and allowance of claim 2.

Claim 3

The Office action asserts that Yamamoto teaches a means for storing the basic setting is a PROM and cites item 14. Item 14 does not store a basic setting that is modified by a correction factor. The Office action asserts that the basic setting is provided by items 17 and 18, and not 14. Items 17 and 18 are not represented to be PROMs. Therefore, Yamamoto fails to teach a means for storing the basic setting is a PROM.

Applicant respectfully requests reconsideration and allowance of claim 3.

Claim 6

The Office action asserts the Yamamoto teaches to determine a basic setting based on expected characteristics of the display device and characteristics of the driver circuit" but does not provide citation to relevant sections of Yamamoto to support these assertions. Thus, the Office Action fails to meet the requirements of MPEP § 707.07(d): "Where a claim is refused the

ground of rejection [should be] fully and clearly stated." Applicant is therefore unable to respond to the rejection because no reference has been made to anything in Yamamoto that specifically corresponds to the recited limitations. On this factor, and arguments made in support of claim 1, among others, Application submits that Yamamoto fails to teach the method as claimed in claim 6.

Claims 8, 16 and 17 depend from claim 6 and are patentable over Yamamoto in view of Kazuo for the reasons provided above, plus the elements in the claims. Applicant respectfully requests reconsideration and allowance of claims 6, 8, 16 and 17.

Claim 8

The Office action asserts the Yamamoto teaches to adjust the adjustable characteristic based on the basic setting and the correction factor (See Fig. 1-2, items ST6, ST6A, ST7, in description See Col. 4, Lines 61-68 and Col. 5, Lines 1-5). Applicant traverses this assertion for the reasons provided above, among others. Applicant repeats the argument above in that Yamamoto does not teach a driver circuit comprising means for storing a basic setting of an adjustable characteristic and a means for storing a correction factor.

The Office action provides that the basic setting is stored in items 17 and 18, and that the correction factors are stored in items 13. Yet, Fig. 2 and Col. 4, Lines 46-63 clearly teaches that item 13 calculates the density data in steps ST5A and AT5B which is then finely adjusted by either items 17 or 18 in steps ST6 and ST6A in order to change the density in ST7. This is contrary to what one would expect if it were assumed that the basic setting is stored in items 17 and 18, and that the correction factors are stored in items 13. To follow the logic of the Office action would be to find that the basic setting is modifying the correction factors.

Applicant respectfully requests reconsideration and allowance of claim 8.

Claims 9 and 19

Applicant traverses the assertion in the Office action for the reasons provided above, among others. Applicant repeats the argument above in that Yamamoto does not teach a driver circuit comprising means for storing a basic setting of an adjustable characteristic and a means for storing a correction factor. Further Yamamoto and Kazuo, singularly or in combination, do not teach that the driver circuit is adjusted based upon the combination of the stored basic setting, the stored correction factor and the temperature correction factor.

Applicant respectfully requests reconsideration and allowance of claims 9 and 19.

Claim 10

Applicant traverses the assertion in the Office action for the reasons provided above, among others. Applicant repeats the argument above in that Yamamoto does not teach a driver circuit comprising means for storing a basic setting of an adjustable characteristic and a means for storing a correction factor. Further, the Office action cites Fig. 2, ST1-ST3 for support of a means for generating a drive signal determined by the value of the stored basic setting. Applicant submits that steps ST1-ST3 do not address a stored basic setting, but a stored calculated setting that changes over time. The data stored in data memory 13 of Yamamoto does not correct the data in main memory 14, and the generated drive signal is not determined by a stored setting in the main memory 14 as modified by a stored correction factor. On this factor, and arguments made in support of claim 1, among others, Application submits that Yamamoto fails to teach the method as claimed in claim 10.

Claims 11, 12 and 13 depend from claim 10 and are patentable over Yamamoto and Kazuo, singularly or in combination, for the reasons provided above, plus the elements in the claims. Applicant respectfully requests reconsideration and allowance of claims 10 through 13.

Claims 11 and 16

The Office action asserts that Yamamoto teaches means for deriving the correction factor by a calibration operation based upon measurement of optical quality of the display module. Applicant submits that the referenced sections cited do not relate to a measured quality of the display module as described in Applicant specification and as claimed, but simply an expected predetermined outcome based on ambient temperature. Applicant submits that Yamamoto does not teach where the correction factor is derived from a calibration operation based upon measurement of the optical quality of the display device.

Applicant respectfully requests reconsideration and allowance of claims 11 and 16.

Claim 12 has been amended to more clearly state and particularly point out the elements of the claim, making the rejection moot.

Applicant respectfully requests reconsideration and allowance of claim 12.

Claim 13

The Office action asserts that Yamamoto teaches the correction factor is based on a particular model of display device, all of which are then operable with the driver circuit and without adjustment of the contrast of the display device by the user. Applicant respectfully traverses the assertion. Applicant submits that the referenced sections cited do not relate to the correction factor being based on a particular model of display device, all of which are then operable with the driver circuit and without adjustment of the contrast of the display device by the user. Applicant repeats the arguments for claim 10 in support of claim 13. Further, a manual control volume 17 is provided for user adjustment. This manual control volume would not be necessary if the correction factor was based on a particular model of display device.

Applicant respectfully requests reconsideration and allowance of claim 13.

Claim 17

Applicant traverses the assertion in the Office action for the reasons provided above for claim 6, among others. The sections cited in the Office action do not correspond to the Yamamoto reference; i.e., there are no Figs. 3 and 4, nor Cols. 7-11. Applicant is therefore unable to respond to the rejection because no reference has been made to anything in Yamamoto that specifically corresponds to the recited limitations. On this factor, and arguments made in support of claim 6, among others, Application submits that Yamamoto fails to teach the method as claimed in claim 17.

Applicant respectfully requests reconsideration and allowance of claim 17.

Claim 18

Applicant traverses the assertion in the Office action that Yamamoto teaches a first memory adapted for storing a basic setting, citing items 17 and 18. As provided above for Claim 1, repeated herein, item 17 is a manual control volume and 18 is a controller, neither the manual control volume nor the controller provide or store a basic setting.

Applicant traverses the assertion in the Office action that Yamamoto teaches a second memory adapted for storing a correction factor to correct the basic setting, citing item 13. As provided above for Claim 8, repeated herein, item 13 does not correct items 17 and 18.

The data stored in data memory 13 of Yamamoto does not correct the data in main memory 14, and the generated drive signal is not determined by a stored setting in the main memory 14 as modified by a stored correction factor.

The Office action asserts that Kazuo "teaches to modify the value of a basic setting by the value of the correction factor". For the reasons provided above, in claim 1, among others,

Applicant respectfully submits that it is not obvious as to how to combine the Yamamoto and Kazuo references in order to obtain the embodiment of Applicant's claim 18.

Application submits that Yamamoto and Kazuo, singularly or in combination, fail to teach the method as claimed in claim 17.

Claim 19 depends from claim 18 and is patentable over Yamamoto in view of Kazuo for the reasons provided above, plus the elements in the claims. Applicant respectfully requests reconsideration and allowance of claims 18 and 19.

Claim 4

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Yamamoto and Kazuo as aforementioned in claim 1 in view of Inoue (US Pat. 5,517,212).

Applicant respectfully submits, for the reasons stated above, that Yamamoto in view of Kazuo in further view of Inoue does not teach all of the limitations of claim 4, which depends from claim 1. The adjustment voltage in Inoue has nothing to do with a correction factor for correcting a basic setting of an adjustable characteristic of a driver circuit (for a display device) and therefore, there is no apparent motivation disclosed to suggest such a modification of the Yamamoto apparatus. Further, the cited section of Inoue, col. 2, lines 19-20 relates to the manual control of the contrast adjustment circuit of an LCD panel, whereas one aspect of the subject matter of Applicant's specification and claim 4 is to eliminate the requirement for a manual contrast control in a display device.

Applicant submits that it would not be obvious to combine Inoue with Yamamoto, and that Inoue does not alleviate the deficiencies of Yamamoto and Kazuo for the reasons given above.

Applicant respectfully requests reconsideration and allowance of claim 4.

Claim 5

Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Yamamoto and Kazuo as aforementioned in claim 1 in view of Conover et al. (US Pat. 6,414,664).

The Office action asserts that Yamamoto and Kazuo show all of the limitations of claim 1 except for "the driver circuit and a particular display device connected to the driver circuit, characterized in that the correction factor in the means for storing a correction factor is based on an individual property of the particular display device, and that Conover teaches the driver circuit (voltage generator) (See Fig. 2, item 270, in description See Col.8, lines 34-35) and a particular display device connected to the driver circuit, characterized in that the correction factor in the means for storing a correction factor is based on an individual property of the particular display device (See Fig. 4, items 430-460 in description See from Col. 9, Line 57 to Col. 10, Line 8 and from Col. 10, Line 57 to Col. 11, Line 11). In that it would be obvious to use range of adjustment in relation to peak voltage as described by Conover in the Yamamoto and Kazuo apparatus in order to control contrast (See Col. 4, Lines 31-35 in Conover)."

Applicant respectfully submits, for the reasons stated above, that Yamamoto in view of Kazuo in further view of Conover et al. does not teach all of the limitations of claim 5, which depends from claim 1. Conover does not alleviate the deficiencies of Yamamoto and Kazuo for the reasons given above.

Applicant respectfully requests reconsideration and allowance of claim 5.

Since the grounds for rejection of claims 6 and 17 are not clearly stated, a Final Office action in answer to this response is not appropriate.

In view of the foregoing reasons for distinguishing over the cited references, Applicant has not raised other possible grounds for traversing the rejections, and therefore nothing herein should be deemed as acquiescence in any rejection or waiver of arguments not expressed herein.

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CONCLUSION

Applicant submits that in view of the foregoing remarks and/or amendments, the application is in condition for allowance, and favorable action is respectfully requested.

The Commissioner is hereby authorized to charge any fees, including extension fees, or to charge any additional fees or underpayments, or to credit any overpayments, to the Credit Card account referenced on the accompanying Credit Card Payment form (PTO-2038). As an alternative, in case the Credit Card cannot be processed, the Commissioner is hereby authorized to charge any fees, additional fees, or underpayments, or to credit any overpayments, to Deposit Account No. 50-1001.

Respectfully submitted,

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